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10/813,107	03/30/2004	Richard M. Peterson	SMD-58-CON	5544
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LAZORCIC, JASON L				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/813,107

Applicant(s)

PETERSON ET AL.

Examiner

JASON L. LAZORCIK

Art Unit

1791

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 April 2009.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 41-65, 68-108 and 110-120 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 41-65, 68-108 and 110-120 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SF/08)
Paper No(s)/Mail Date 4/7/2009.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

Status of the Claims

Applicants reply dated April 2, 2009 amends claims 41, 68, 111, 115, 117, and 119. All other claims stand as previously presented in Applicants reply dated August 14, 2008.

Claims 1-40, 66, 67, 109 have been previously cancelled by Applicant and no claims have been withdrawn from consideration. Therefore, Claims 41-65, 68-108, and 110-120 are pending for prosecution on the merits.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. **Claims 41-69, 114, 115, 117, and 119 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement.** The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.
3. Claims 41, 115, 117 and 119 all have been amended to recite that the treated areas reduce the ignition proclivity of a smoking article sufficiently so as "to pass a test entitled Cigarette Extinction as established by NIST (National Institute of Standards and Technology)". After careful review of the relevant portions of Applicant's Specification

as originally filed, namely ¶[0030-0031], it is the Examiner's assessment that the originally filed disclosure does not provide adequate support for the instant limitation. Specifically, the Originally filed specification states in pertinent part (see ¶[0030]) that "a test for ignition proclivity of a cigarette has been established by NIST ... and is generally referred to as the "mock-Up Ignition Test". The Specification later states that "another test for ignition proclivity is referred to as the "Cigarette Extinction Test" (see ¶[0031]).

4. Importantly, the originally filed Specification does not teach nor suggest that the "Cigarette Extinction Test" has been established by NIST in the manner as presently recited in the amended claim language. Further, one of ordinary skill in the art would not reasonably be apprised of such a limitation in view of the Original disclosure. It is therefore the Examiners conclusion that Applicant's originally filed disclosure fails to comply with the written disclosure as required under 35 U.S.C §112, first paragraph.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 41-65, 68-108, and 110-120 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. Further, although Applicant's Specification provides generally for a "Cigarette Extinction Test" (see page 7, lines 1-7), one of ordinary skill in the arts would not be apprised of the specific nature of this test in view of the Specification as originally filed. That is, Applicant's Specification has failed to provide any details regarding the

materials or experimental protocol involved in the instant test and one of ordinary skill in the art would not necessarily be apprised of said protocol.

8. Further, although Applicant's claim language has been amended to recite that the cigarette extinction test has been established by NIST it is not evident that one of ordinary skill would be apprised of details of such a test. Even accepting that Applicant's amended claim language follows that one of ordinary skill in the art would not necessarily be apprised of the specific nature or methods of the test and more importantly the extent of patent coverage encompassed by the claimed invention. In view of the indefinite nature of the claimed "Cigarette Extinction Test" the particular metes and bounds of Applicant's claimed invention are rendered likewise unclear and indefinite.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 41-65, 68-108, and 110-120 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peterson (US 5,878,753) in view of Hampl (US 4,739,755) and Hampl (US 6,298,860 B1) and the ordinary level of skill in the art at the time of the invention.

With respect to independent **claims 41, 70, 83, and 113**, Peterson teaches a paper wrapper for a cigarette and the cigarette comprising said wrapper and tobacco column as depicted in the instant reference Figures 1 and 2. Figure 2 teaches cigarette paper web presenting a plurality of "discrete circumferential bands" [**Claims 42, 84**] coated with a film forming composition wherein consecutive bands are spaced apart by untreated regions of paper web. The reference clearly teaches that the treated regions have "a preferred permeability less than 6 ml/min.cm² (Coresta), and generally within a range of 2-6 ml/min/cm²." (Column 5, lines 57-62) [**Claim 68, 95, 111**]

It is the Examiner's understanding that both the Coresta (CU) and BMI or "Burn mode index" represent alternate but effectively equivalent measures of porosity and in the instant case specifically describe the porosity of the treated region or bands. To this end, although Peterson discloses a Coresta value for the bands which reads upon the claimed range, the reference fails to disclose the treated band porosity as measured by the BMI value.

The patent to Hampl et. al. (US 4,739,775) provides insight into the BMI value and its relation to the CU. The Hampl reference relates the methods of acquiring a BMI value in addition to presenting an exemplary comparison between the Coresta value of a wrapper (30 CU) and its equivalent porosity as measured by BMI (14 cm-1) (see

Table 1). By the Hampl reference, it is the Examiner's understanding that the CU and BMI are related by an approximate 2:1 ratio (e.g. 30 CU:14 BMI). Therefore absent compelling evidence to the contrary, Peterson is understood to teach a treated band presenting a BMI value of approximately 3 cm^{-1} or less (e.g. half the CU value of less than 6 CU) [**Claim 69, 81, 82, 112**].

Band Width and Band Spacing are Result Effective Variables Subject to Optimization

With respect the particular details of band width and spacing as required by **Claims 70 and 113**, the Peterson reference teaches that "Applicants have determined that, for the cigarettes tested, a minimum band width of 4mm is desired" (Column 6, Lines 3-4) [**claim 43, 85**] and that "In the cigarettes tested, applicants have found that a band spacing of between 5 and 10mm is appropriate" (Column 6, Lines 18-19) [**Claim 44, 45, 86, 87**].

Peterson further sets forth both band spacing and band width as clear result effective variables subject to empirical optimization. Specifically, Peterson teaches that the "width and spacing of bands are dependent on a number of variables, such as the initial permeability of wrapper 14, density of tobacco column 12, etc". The reference continues by teaching that the bands preferably have a width sufficient to limit the oxygen provided to the burning coal. The reference further asserts that the band spacing should not be so large as to promote burning trough the bands, but not so small as to self-extinguish the cigarette in a free-burn state. Therefore, the band width and

band spacing are held as result effective variables of the paper wrapper which one of ordinary skill in the art would be able to optimize through routine experimentation.

Number of Circumferential Bands is an Obvious Parameter in View of the Band Width, Band Spacing, and the Ordinary Level of Skill in the Art

With respect to Applicant's newly submitted **Claims 114, 116, 118, and 120**, Peterson places neither explicit nor implicit limitations upon the number of bands applied to the paper wrapper, however the reference is silent regarding the particular limitation wherein the wrapper includes "up to three circumferential bands".

In view of the above discussion regarding the result effective nature of band width and spacing, said limitation is not deemed to patentably distinguish the claimed invention over that disclosed in the Peterson reference when viewed in light of the ordinary level of skill in the art at the time of the invention. Specifically, one of ordinary skill in the art at the time of the invention would view the total number of circumferential bands as a dependent variable based at least in part upon the desired length of the tobacco rod in addition to the above noted optimized width and spacing of said bands. It follows, that Applicants claimed paper wrapper comprising "up to three circumferential bands" would reasonably have been derived through no more than routine experimentation over the prior art disclosure.

Peterson Cigarette is Construed to Pass the claimed "Cigarette Extinction Test"

Applicant's amended independent **claim 40** and dependent **claims 115, 117, and 119** incorporate the limitation wherein the treated areas reduce the ignition proclivity of a smoking article "sufficient for the smoking article to pass a test entitled Cigarette Extinction as established by NIST".

With respect to the named test, Applicant is respectfully directed to Peterson (column 10, Lines 40-57) which states in pertinent part that the treated region (38) of the cigarette has a width "which is great enough to cause the cigarette to self-extinguish if it is dropped or otherwise left on a flammable substrate" (col. 10, lines 40-43). Again in view of the cited passage and absent compelling evidence to the contrary, the Peterson cigarette is construed self-extinguish if left on a flammable substrate and therefore construed to pass the claimed "Cigarette Extinction Test".

The instant reference further discloses that "Applicants have found that a non-aqueous solution of a solvent soluble cellulosic polymer with a particulate inorganic non-reactive filler suspended in solution works particularly well" (Column 6, Lines 25-28) [**Claim 52, 57, 58, 63, 64, 73, 94, 100, 101, 106, and 107**]. The reference continues by teaching that particularly well-suited fillers include titanium oxide or a "metal oxide" [**Claim 65, 72, 74, 108**] (Column 7, Line 5) and that ethyl cellulose acts as a preferred binder for the filler particles (Column 6, Lines 54-56) [**Claim 75**]. While the above coating composition sets forth a preferred embodiment, Peterson teaches that aqueous

solutions [**Claim 56, 99**] which a variety of common film forming components include alginate, polyvinyl alcohol [**Claim 48, Claim 50, 90, 92**]. Although not expressly disclosed in the instant reference, one of ordinary skill in the art would recognize both polyvinyl acetate and starch as potential substitutes for the film forming component in the film forming composition [**Claim 49, claim 51, 71, 91, 93**].

In discussing the mode of depositing the bands, Peterson discloses that the bands are deposited using a commercial gravure press in a 3 pass process [**Claim 46, 47, 79, 80, 88, 89**]. Said deposition produces a "ramp pattern" increasing gradually from 0% to 100% over the three printing passes Column 11, Lines 26-57). The disclosed process is understood to vary the amount of film forming composition applied to the paper web by at least 1% between at least two of the layers [**Claim 53, 54, 96, 97**].

Now, Peterson fails to explicitly teach the application of an alkali metal citrate to the paper web to act as a "burn control additive", however such an addition would have been readily obvious to one of ordinary skill in the art at the time of the invention. Again looking to the analogous teachings of Hampl (US 4,739,775), it is disclosed that "While the base cigarette paper may be conventional, it may contain small amounts of an ash conditioner, such as potassium citrate. However the amount of the ash conditioner must be below the level which causes the wrappers to support combustion of a cigarette in spite of the bands. (Column 4, Lines 52-58). It would have therefore been obvious to one of ordinary skill in the art at the time of the invention to modify the Peterson

invention to include a burn control additive such as an alkali citrate [**Claims 60, 61, 62, 103, 104, 105**]. This would have been an obvious modification to one of ordinary skill seeking to promote ash formation in a cigarette article.

Additionally, while Peterson teaches the use of a particular commercially available brand of paper (e.g. Kimberly-Clark Corporation KC Grade 603 paper) with a porosity of approximately 35 CU, the reference fails to explicitly teach the use of a paper web having a permeability of greater than about 60 CU as required by independent Claims 41, 70, 83, and 113. That said, Peterson does teach that "Wrapper (14) may include any manner of commercially available cigarette wrapper,...It should be understood that any other manner of paper web may be used in this regard." (Column 5, Lines 23-27).

Hamp (US 6,298,860 B1) teaches the use of a paper for constructing smoking articles having a basis weight from 18 gsm to 60 gsm [**Claims 59, 102**] and also having "a permeability of from about 5 Coresta units to about 80 Coresta units" (Column 2, Lines 46-51). Since the use of a cigarette paper having a porosity of about 80 Coresta units is known in the art of cigarette manufacturing and Peterson teaches that any manner of commercially available cigarette paper can be used in the disclosed invention, the use of a paper having a permeability of "greater than about 60 Coresta" or "greater than about 80 Coresta units" would have been obvious modification to the Peterson process at the time of the invention [**Claims 55, 76, 77, 78, 98**].

Response to Arguments

Argument #1)

With respect to the contested Cigarette Extinction test, Applicant alleges that Applicant's Specification explicitly teaches that "the Cigarette Extinction test was developed by the National Institute of Standards and Technology".

The Examiner respectfully disagrees.

After careful review, it is the Examiners assessment that Applicant's Specification as originally filed nowhere explicitly states nor reasonably implies that the named Cigarette Extinction test was developed by NIST. Further, nothing in Applicant's originally filed Specification suggests that Applicant's recited Cigarette Extinction test is identical to the Cigarette Extinction test as disclosed in the NIST document of attached Appendix A. For reasons made explicit above, Applicant's amended claim language as recited in claims 41, 115, 117, and 119 namely that the Cigarette Extinction test is equivalent the Cigarette Extinction test as related in the document of Appendix A, is not supported by the originally filed discloser in accordance with the requirements of 35 U.S.C. §112, first paragraph.

Argument #2)

Applicant again alleges that one of ordinary skill in the art would not employ a paper of greater than about 60 Coresta in the wrapper as disclosed in the Peterson reference. Applicants arguments on this matter have been previously treated in pages 10-13 of the Official Action dated October 28, 2008.

Applicants additionally cited references in Appendixes B and C have been reviewed and carefully considered but are not deemed to be commensurate in scope with the claimed invention, namely surface treated wrappers having regions of reduced permeability. For at least this reason, the references are not deemed to constitute persuasive evidence that one of ordinary skill would never try a base paper of greater than about 60 Coresta in the Peterson wrapper.

Conclusion

3. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JASON L. LAZORCIK whose telephone number is

(571)272-2217. The examiner can normally be reached on Monday through Friday 8:30 am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on (571) 272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. L. L./
Examiner, Art Unit 1791

/Eric Hug/
Primary Examiner, Art Unit 1791